Zhixin Ling(凌致新)

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Educational Background

2016-09 ~ 2020-06 Shanghai Jiao Tong Univ.(Supervised by Li Niu) Computer Science (Bachelor)

GPA: 3.82/4.30 (Rank 20.55%); CET6: 591; Courses include Artificial Intelligence, Machine Learning, Computer Graphics.

2020-09 ~ 2023-06 Fudan Univ.(Supervised by Xiangdong Zhou) Software Engineering (master)

GPA: 3.60/4.00 (Rank 25.53%). Courses include data science, machine learning theories, frontier of big data.

Research Experiences

- Multi-Level Region Matching for Fine-Grained Sketch-Based Image Retrieval. ACMMM22, 1st author
 a.Discriminative region extraction for sketch/image. b.Matching scores synthesis for multi-level regions.
- 2. Conditional Stroke Recovery for Fine-Grained Sketch-Based Image Retrieval. ECCV22, 1st author a.Unsupervised stroke extraction. b.Image-based sketch recovery. c.Cross-Modality double-anchor InfoNCE.
- 3. Zero-Shot Sketch-Based Image Retrieval with Structure-aware Asymmetric Disentanglement. CVIU22, 2nd author a.Image disentanglement to structure & appearance. b.Retrieval distances synthesis of different spaces.
- 4. Few-shot Single-view 3D Reconstruction with Memory Prior Contrastive Network. ECCV22, 3rd author a.Add 3D shape prior for 3D reconstruction. b.3D-aware contrasive learning to learn soft negative distances.
- 5. DoveNet: Deep Image Harmonization via Domain Verification. CVPR20, 5th author
- 6. *PanoSwin: A Panoramic Shift Windowing Scheme for Panoramic Tasks*. Unpublished, 1st author a.New shift windowing that adapts SwinT+FasterRCNN for PanoDetection. b.Distill tranditional ability to panorama.
- 7. SKP: Selective Knowledge Preservation for Zero-Shot Sketch-Based Image Retrieval. Unpublished, 1st author a.Multi-Scale Knowledge Distillation. b.New discovery that granularity inconsistency hampers KD. c. Sketch Augs.

Project Experiences

- 1. 2021.01-2021.11, We detect object in panoramic images of motor rooms to device varying.
 - a. Augmentation of horizontal rolling, sphere rotation, pano stretch. b. Multi-test to locate incomplete objects.
- 2. 2020.12-2021.10, Establishment of panoramic image visualization system that support compressed forms.
 - **a.** Fore-end image rendering via HTML+JS+THREE. **b.** Wrap basis compressing algorithm at back-end via Python.
- 3. 2017.01-2018.03, Double-player GreedySnake via Qt5(C++ & QML).
 - a. Support different speeds, roles and difficulties. b. Support map editor. c. Support AI, PvP & LAN games.
- 4. 2019.02-2019.10, Reproduction of AlphaGoZero in Five-In-Row games via tensorflow.
 - a. Support Double-Player Five-In-Row games. b. Network-guided MonteCarlo search. c. Our AI rivals Novice AI.

InternShip experiences

2022-04 ~ 2022-09 Bytedance Computer vision intern

- 1. Investigation of diffusion models in image synthesis tasks.
- 2. Participation in color matching datasets, extracting main colors for salient objects and texts.
- 3. Participation in selling point generation project, automatically generating selling points via product images and names.

Other info

Professional interests: computer vision, sketch-image retrieval, object detection, panoramic feature learning, etc. **Social practices:** President of Fudan club "Zhuxin Club", having organized several large public welfare projects.